

ABSTRACT OF THE DISCLOSURE

A workpiece is gripped by a robot hand and the image of the workpiece is captured by a camera without being stopped. An image processing device detects the position and posture of a characteristic portion of the workpiece. A robot controller stores the present position of the robot once or more times synchronously with the output of an image pick-up trigger instruction. On the basis of the present position of the robot and a detection result, the relative position and posture between a flange of the robot and the workpiece characteristic portion is detected. The relative position and posture is compared with that observed when the workpiece is gripped correctly, to determine a gripping error. If the gripping error exceeds a permissible error, the robot is stopped. If the gripping error is equal to or less than the permissible error, a taught position where the workpiece is to be released is corrected so as to cancel the adverse effect of the gripping error.